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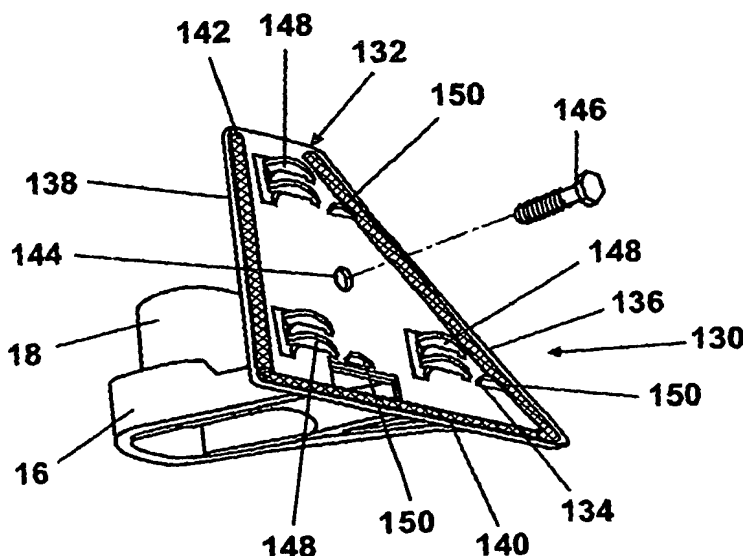
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(54) Title: MOUNTING SYSTEM FOR VEHICULE MIRROR



(57) Abstract: The invention provides improvements to an external vehicle mirror assembly (10). The pivot point (72) is located at an outboard side (116) of the mirror housing. The power pack (110) is mounted at an inboard side (114) of the mirror housing (112). The mirror case (50) is molded with no obstructions in a recessed base for holding the mirror, and the pivotable socket (70) is molded at one side of the mirror case. The mirror assembly is mounted to the vehicle through an improved mounting mechanism (130). Trim seals (142) seal the mirror assembly to the vehicle with improved wind noise, moisture, and dust resistance, and fewer components.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP 03/21885

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B60R1/06 B60R1/062

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B60R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2 259 179 A (SAUER HENRY J) 14 October 1941 (1941-10-14) the whole document	1,13,14, 16 23
X Y	GB 1 202 574 A (MALCOLM JOHN WILLIAMS) 19 August 1970 (1970-08-19) page 1 - page 4; figure 7	13-15 1,5,7,16
Y A	US 4 936 537 A (NAMBA HIROAKI ET AL) 26 June 1990 (1990-06-26) column 1 - column 4; figures 1-4	1,4,5,7, 16 23
Y	US 6 039 449 A (DOLAN DANIEL J ET AL) 21 March 2000 (2000-03-21) column 3; figure 1	1,4,5,7
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

7 September 2004

Date of mailing of the international search report

21.09.04

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INTERNATIONAL SEARCH REPORT

International Application No

PC 03/21885

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 253 633 A (TAKEGAWA TETUO) 3 March 1981 (1981-03-03) the whole document	1,4,5
A	US 1 861 148 A (WITHROW FLOYD G) 31 May 1932 (1932-05-31) the whole document	1,13,23
X	EP 0 979 757 A (BRITAX RAINSFORDS PTY LTD) 16 February 2000 (2000-02-16)	31,33
Y	column 2, paragraph 13 - paragraph 16; figures 11-14	32,34
X	EP 0 186 366 A (BRITAX WINGARD LTD) 2 July 1986 (1986-07-02)	31,33
Y	column 1 - column 2; figures 1-3	32,34
Y	EP 0 512 440 A (BOSCH GMBH ROBERT) 11 November 1992 (1992-11-11) column 2, line 2 - line 13; figure 1	32
Y	US 2001/015862 A1 (O'FARRELL DESMOND J ET AL) 23 August 2001 (2001-08-23) paragraph '0039! - paragraph '0041!; figures 6-8	34

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/21885

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-30

A side-mounted rearview mirror having a mounting panel for mounting the mirror to the vehicle by translating said mounting panel relative to a socket situated on the vehicle side.

2. claims: 31-34

A mirror case comprising a housing, a tilt mechanism attached at one attachment point and a pivot point to adjust the orientation of the mirror about two perpendicular axes when actionated by the mechanism.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/03/21885

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2259179	A	14-10-1941	NONE	
GB 1202574	A	19-08-1970	NONE	
US 4936537	A	26-06-1990	JP 1111045 U	26-07-1989
US 6039449	A	21-03-2000	NONE	
US 4253633	A	03-03-1981	JP 55004955 U	12-01-1980
US 1861148	A	31-05-1932	NONE	
EP 0979757	A	16-02-2000	US 6106122 A BR 9903563 A CN 1245761 A DE 69917843 D1 EP 0979757 A2 JP 2000052863 A KR 2000017137 A	22-08-2000 29-08-2000 01-03-2000 15-07-2004 16-02-2000 22-02-2000 25-03-2000
EP 0186366	A	02-07-1986	EP 0186366 A2 JP 61157451 A	02-07-1986 17-07-1986
EP 0512440	A	11-11-1992	DE 9105829 U1 DE 59203947 D1 EP 0512440 A1 JP 5124470 A	10-09-1992 16-11-1995 11-11-1992 21-05-1993
US 2001015862	A1	23-08-2001	US 6217181 B1 US 6019475 A US 5659423 A DE 19736482 A1 GB 2316379 A ,B GB 2293587 A ,B	17-04-2001 01-02-2000 19-08-1997 26-02-1998 25-02-1998 03-04-1996